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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/588,050

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Julian Carter

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EXAMINER

LIN, JAMES

ART UNIT

PAPER NUMBER

1715

MAIL DATE

DELIVERY MODE

08/26/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/588,050	Applicant(s) CARTER ET AL.	
	Examiner JAMES LIN	Art Unit 1715	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) 12-19, 33-39 and 42-44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 20-32, 40 and 41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/1/06, 8/13/08</u> | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1-11, 20-32, 40 and 41 in the reply filed on 6/21/2010 is acknowledged.
2. Claims 12-19, 33-39 and 42-44 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 1/20/2010.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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6. Claims 1-11, 20-32, 40 and 41 are rejected under 35 U.S.C. 102(b)/103(a) as being unpatentable over Duineveld et al. (WO 01/41229), alternatively, in view of Kiguchi et al. (U.S. Patent No. 6,630,274).

Duineveld discloses a method of making an EL device (abstract). A plurality of banks 111 defining wells can be formed on a substrate (Fig. 4; Embodiment 5). An organic EL material (i.e., a molecular electronic material) can be dissolved in a solvent (pg. 6, lines 20-28) and deposited into the wells (Fig. 4) by an ink jet method (pg. 22, lines 22-28). The height of the banks can be less than about 5 μm (Table 2; pg. 21, lines 3-6).

Duineveld does not explicitly teach wherein a bank has a face, defining an edge of the well, at an angle to a base of the well of greater than a contact angle of the composition with the bank face. However, the present specification seems teach that such a phenomenon occurs when the banks are formed with overhangs (see [0043] of the published application U.S. Publication No. 2008/0095981). Duineveld teaches the use of banks having overhangs (Fig. 4). The method and structure of Duineveld seems to be similar to that of the present invention. Similar methods must necessarily yield similar results. Therefore, the angle of the bank face of Duineveld must necessarily be greater than the contact angle than the contact angle of the EL composition with the bank face.

Alternatively, Duineveld teaches that the slope of the bank can have an angle of -45° (pg. 8, lines 25-27) or 135° . Duineveld is completely silent as to the contact angle of the EL composition to the bank face. Accordingly, Kiguchi teaches that if the contact angle between a bank and an ink is less than 30° , the ink rises, the quantity of ink adhering to the banks becomes large, and it will become easy for coloring flaws to occur on the substrate. If the contact angle exceeds 60° , the ink repellency of the bank relative to the ink becomes large and it will become easy for coloring flaws to develop on the substrate near the banks (col. 4, lines 25-39). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have used a contact angle of the EL composition relative to the bank face Duineveld between 30° and 60° with a reasonable expectation of success. One would have been motivated to do so in order to have prevented any flaws within the EL layers.

Claim 2: Duineveld teaches that the height of the banks can be less than about 5 μm (pg. 21, lines 3-6).

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Claim 3: Duineveld recognizes the tendency of ink drops to spread (pg. 13, lines 23-27) and the need to control the amount (i.e., the number of droplets) of EL material to be deposited into the wells (Fig. 4).

Claim 4: The ink droplets would necessarily spread to touch the bank face.

Claims 5,24-25: Duineveld teaches that the height of the banks can be less than about 5 μm (Table 2; pg. 21, lines 3-6).

Claims 6-7,26: Duineveld teaches that lithographically forming the banks from a photoresist (pg. 6, lines 1-3).

Claim 8: Duineveld teaches that the photoresist can be a single layer of negative photoresist (pg. 8, lines 25-27).

Claims 9,27-28: Duineveld teaches that the slope of the bank can have an angle of -45° (pg. 8, lines 25-27) or 135° .

Claims 10,29-30: Duineveld teaches that the bank face is undercut (Fig. 4).

Claim 11: Duineveld teaches that the well can be incompletely filled (Fig. 4).

Claims 20,40-41: Duineveld teaches that the electronic device can be an EL device (i.e., a light emitting diode) (abstract).

Claims 21,31-32: Duineveld teaches that the EL layers can be formed in a stripe shape (pg. 16, lines 10-13; Fig. 1). The first few ink droplets would not completely cover the base of the well because of the elongated shape of the stripe. The deposition of the ink droplets occurs over a finite period of time and the first few ink droplets would necessarily at least partially spread by capillary action.

Claims 22-23: The deposition of the ink droplets occurs over a finite period of time and the first few ink droplets would necessarily at least partially spread by capillary action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES LIN whose telephone number is (571)272-8902. The examiner can normally be reached on Monday thru Friday 8AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jimmy Lin/
Examiner, Art Unit 1715